

### **Amendments to the Specification**

At specification page 1/7, after the paragraph beginning with "[t]his is a nationalization," insert the following headings:

#### **BACKGROUND OF THE INVENTION**

##### **1. Field of Invention**

At specification page 1/7, replace the paragraph beginning with "[t]he invention concerns" with the following replacement paragraph:

The invention concerns a bag-making device for cross base bags ~~as is presented in the generic term of claim 1.~~

At specification page 1/7, after the paragraph beginning with "[t]he invention concerns," insert the following heading:

##### **2. Description of the Prior Art**

At specification page 1/7, replace the paragraph beginning with "[t]hese devices are known" with the following replacement paragraph:

These devices are known ~~since long~~ and are acknowledged, e.g., in the document DE 198 05 321 C1. In more recent times, there has been an increasing demand for cross base bags with small volumes. Cross base bags can have a small volume by means of a smaller base middle measurement. However, the manufacture of bags

with smaller base middle measurement requires the implementation of extensive constructive changes in the means of production, primarily in bag making devices. Since the bags are conveyed at right angles to the principal axis of the tube through the working station of the bag-making device, both the working stations and also the conveyor system have to be formed in a narrower configuration than they ~~used to be so far~~ have been previously.

At specification page 1/7, replace the paragraph beginning with "[o]ne of the necessary measures" with the following replacement paragraph:

One of the necessary measures is the use of narrower conveyor belts for conveying the bags through the working stations of the bag-making device. However, the conveyor belts are exposed to a considerable amount of tensile stress and run the risk of ~~getting~~ being stretched. This tendency increases with the decreasing breadth of the conveyor belt. The result of changing the length of the conveyor belt in the operation, however, is that the bag positions in the working stations no longer correctly align with the rotary motions of the tool rollers. The tools run through their machining position when the bag is not yet or is no longer located at the right place, and the related working step is executed inaccurately. As a result, ~~The resulting the normal~~ fabrication tolerances of the bags can be exceeded, ~~result~~

resulting in serious quality defects in the bags, e.g., leakiness and lack of durability. These consequences are highly undesirable.

At specification page 2/7, replace the paragraph beginning with "[f]or these reasons" with the following replacement paragraph:

For these reasons the use of conveyor belts is recommended that have at least components made of tensile-stressable material such as steel. ~~As a rule~~ Typically these components of the belt are coated with a more elastic and softer material that prevents the conveyed items from ~~damage being~~ damaged. In this context the so-called cable cord belts ~~must be mentioned~~ may be employed that contain steel in their core and are usually coated with rubber.

At specification page 2/7, replace the paragraph beginning with "[u]nfortunately conveyor belts" with the following replacement paragraph:

Unfortunately conveyor belts of the ~~described~~ above-described kind have fabrication tolerances that can be exceeded when the belt is stretched. The result of these fabrication tolerances is once again imprecisions in the positioning of the bags in the machining positions and thus in the fabrication tolerances of the bags.

At specification page 2/7, after the paragraph beginning with "[u]nfortunately conveyor belts," insert the following heading:

SUMMARY OF THE INVENTION

At specification page 2/7, replace the paragraph beginning with "[t]herefore the task" with the following replacement paragraph:

Therefore ~~the task~~ an object of the present invention is to ~~suggest~~ provide a device that restricts the quality defects that are brought about by the exceeded fabrication tolerances of the conveyor belt.

At specification page 2/7, replace the paragraph beginning with "[i]n the use of conveyor belts" with the following replacement paragraph:

In the use of conveyor belts ~~with~~ having components of tensile-stressable material such as steel and a softer ~~protection~~ protective covering and/or a softer coating, the conveying process of the bags is first determined by the tensile-stressable material.

At specification page 3/7, replace the paragraph beginning with "[t]hus the angular speed" with the following replacement paragraph:

Thus the angular speed of the transport discs and the distance of the tensile-stressable material from the axis of the transport discs are decisive factors for determining the conveying speed of the bags in the working stations.

At specification page 3/7, replace the paragraph beginning with "[t]he distance of the tensile-stressable material" with the following replacement paragraph:

The distance of the tensile-stressable material from the axis of the transport discs is referred to herein as the effective disc radius ~~in the following. It~~ The effective disc radius is ~~composed of~~ the actual radius of the drive wheel and the thickness of the elastic, soft layer between the outer circumference of the transport disc and the tensile-stressable material. However, the thickness of this layer is subject to variations that are transferred to the effective radius of the transport discs and thus to the conveying speed.

At specification page 3/7, replace the paragraph beginning with "[w]hat proves to be" with the following replacement paragraph:

What proves to be particularly advantageous is a configuration in which the ratio of the angular speed of the drive wheels to the angular speed of the processing rollers ~~amounts to~~

~~2/3~~ is 2:3. Due to this ratio of the angular speed of ~~2/3~~ 2:3, the speed droop of the conveyor belt also reduces by the factor ~~2/3~~ 2:3 as compared to when the drive wheels have the same angular speed as the processing rollers.

At specification page 4/7, replace the paragraph beginning with "[a]n example of the design" with the following replacement paragraph:

An ~~example~~ embodiment of the ~~design~~ configuration of the invention is presented in the drawings and the objective description.

At specification page 4/7, after the paragraph beginning with "[a]n example of the design," insert the following heading:  
BRIEF DESCRIPTION OF THE DRAWINGS

At specification page 4/7, replace the paragraph beginning with "[t]he individual figures" with the following replacement paragraph:

The individual drawing figures illustrate:

At specification page 4/7, after the paragraph beginning with "[f]igure 5" (i.e., the brief description of Figure 6), insert the following heading and paragraph:

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

At specification page 4/7, replace the paragraph beginning with "[f]ig. 1 illustrates" with the following replacement paragraph:

Fig. 1 illustrates a top view of a cutout portion of a bag-making device in accordance with the present invention. The tube sections 1 are conveyed in a laid flat mode in the conveying direction x. The base 2 of the tube sections 1 ~~were~~ was formed already in a previous operation. The formation of a bag base is described in, e.g., ~~another~~ an unpublished patent application of the same applicant with the application number DE 102 55 483. The tube section 1 is held gripped between the conveyor belts 3. As an example of two working stations existing in a bag making device, the base grooving station 30 and the gluing station 31 are described in the following. The tools designed as grooving knives

that are attached on the circumference of the grooving rollers 7 of the base grooving station 30, provide the bases 2 of the tube section 1 with a base grooving whereby the back pressure rollers 8 provide the counteracting force. Subsequently an adhesive application in accordance with the format takes place in the gluing station 31 on the bases 2 of the tube sections 1 by the format rollers 9. The back pressure rollers 10 provide the counteracting force required for the adhesive application. All the rollers 7, 8, 9, 10 are supported in a manner that is not illustrated in detail in the machine frame (also not illustrated).

At specification page 4/7, replace the paragraph beginning with "[t]he conveyor belt 3" with the following replacement paragraph:

The conveyor belt 3 is designed as an endless conveyor and entwines deflection rollers at both the ends of the bag-making device. The drive of the conveyor belt 3 takes place by the drive wheels 4. These are driven by the gears 5 that start from the line gear 12 and that are described in more detail on the basis of fig. 5. In order to guarantee a sufficient adhesion of the conveyor belt 3 on the drive wheel 4, a deflection disc 6 is ~~each~~ arranged to the right and the left of ~~every~~ each drive wheel 4 as can be seen in fig. 2. These deflection discs 6 are pivoted over their bearing pins 11 in the machine frame.



At specification page 5/7, replace the paragraph beginning with "[t]he speed of the conveyor belt 3" with the following replacement paragraph:

The speed of the conveyor belt 3 and also the conveying speed of the tube sections 1 result from the distance covered per time unit. The distance covered, however, depends on the distance between the steel cord 13 (Figure 3) of the conveyor belt 3 and the axis of the drive wheel 4. This distance is referred to herein as the effective radius  $R_{eff}$  " $R_{eff}$ " ~~in the following~~[[.]] The effective radius  $R_{eff}$  is the sum of the radius of the drive wheel ~~5~~ 4 and the thickness  $D$  of the rubber coat 15 between the steel cord 13 and the surface 17 of the conveyor belt 3. The surface 17 is in direct contact with the outer circumference of the drive wheel ~~5~~ 4.

At specification page 5/7, replace the paragraph beginning with "[a]s can be seen in fig. 3" with the following replacement paragraph:

As can be seen in fig. 3 the thickness  $D$  has no constant value, and instead ~~it~~ varies between the values  $D_{min}$  " $D_{min}$ " and  $D_{max}$  " $D_{max}$ " [[.]] In other words, the distance  $D$  is afflicted with an error  $\Delta D$  that results from the difference between  $D_{max}$  and  $D_{min}$ . This error that results from the fabrication tolerances of the conveyor

belt directly causes speed droops of the conveyor belt 3 and thus deficiencies in the fabrication quality of the cross base bags.

At specification page 5/7, after the paragraph beginning with "[a]s can be seen in fig. 3," insert the following paragraph:

The present invention is particularly advantageous in that it provides a configuration in which the ratio of the angular speed of the drive wheels 4 to the angular speed of the processing rollers 7, 9 is 2:3. By virtue of this ratio of the angular speed being 2:3, the speed droop of the conveyor belt 3 reduces accordingly by the factor of 2:3 as compared to a configuration in which the drive wheels 4 have the same angular speed as the processing rollers 7, 9.

At specification page 5/7, replace the paragraph beginning with "[f]ig. 4 illustrates" with the following replacement paragraph:

Fig. 4 illustrates a perspective view of the structure of the conveyor belt 3. The conveyor belt 3 essentially consists of several steel cords 13 that are arranged in a horizontal plane and a rubber coat 15 that surrounds the steel cords 13. Since the steel cords 13 have an essentially higher tensile strength as compared to the rubber coat 15, the steel cords 13 determine the so-called ~~'neutral phase'~~ "neutral phase" of the conveyor belt 3. This means

that the steel cords 13 can neither be compressed nor can they be stretched. Conveyor belts 3 with a structure of such type are referred to in technology nomenclature as ~~'cable cord belts'~~ "cable cord belts" and can be kept narrow due to their tensile strength. ~~They~~ These conveyor belts 3 are thus particularly suitable for use in bag making devices that are used to manufacture cross base bags with a small base middle measurement. While using conveyor belts with a lower specific tensile strength, these bag making devices would have to be designed broader in order to receive a comparable tensile strength. The minimum base middle measurement that must be maintained increases accordingly.

At specification page 6/7, replace the paragraph beginning with "[f]ig. 5 illustrates" with the following replacement paragraph:

Fig. 5 illustrates a view of the gear 5 in accordance with fig. 1. The drive torque is fed to the gear via the line gear 12. The shaft 23 pushes a bevel gear 20 that takes off a part of the torque moment and distributes it onto the planetary gear 21 and the shaft 23. The shaft 23 ends in another bevel gear 20 that deviates the torque moment and delivers it to another planetary gear 21. Both the planetary gears 21 each drive a drive wheel 4. All the gearbox parts 20, 21, 23 are connected to the base plates 18 or to the retaining plates 19, 22 whereby the retaining plates

19, 22 also are firmly connected to the base plates 18. The base plates 18 are attached to the machine frame in a manner not illustrated herein in more detail.

At specification page 6/7, after the last line, insert the following paragraph:

The invention being thus described, it will be apparent that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be recognized by one skilled in the art are intended to be included within the scope of the following claims.

At specification page 1/3 (i.e., the first claims page), replace the heading with the following replacement heading:

~~Patent claims~~ WHAT IS CLAIMED IS: